

CLAIMS:

What is claimed is:

1 1. In a wireless communication system, a method for beamforming comprising:
2 identifying one or more target(s) for which a communication signal is intended;
3 identifying one or more other target(s) which may benefit from receipt of the
4 communication signal; and
5 developing a multi-lobe beampattern to transmit the communication signal to the
6 intended target(s) and the identified one or more other target(s).

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2 2. A method according to claim 1, further comprising:
3 transmitting the communication signal to the intended target(s) and the identified other
target(s) employing the developed multi-lobe beampattern.

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2 3. A method according to claim 1, wherein the wireless communication system implements
3 general packet radio services (GPRS), wherein identifying the target(s) comprises:
4 analyzing a received datagram for target information.

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2 4. A method according to claim 3, wherein the target information includes at least
3 information regarding the intended target(s) of the wireless communication signal.

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2 5. A method according to claim 4, wherein the information regarding the intended target(s)
3 comprise one or more of an electronic serial number, a media access controller (MAC) address, a
telephone number, an internet protocol (IP) address, and/or an application identifier.

- 1 6. A method according to claim 3, wherein the target information includes at least
 - 2 information regarding the intended targets of the wireless communication signal and intended
 - 3 target(s) of a subsequent wireless communication signal.
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 - 2 7. A method according to claim 1, wherein developing a multi-lobe beampattern comprises:
 - 3 identifying a first spatial signature associated with the intended target(s);
 - 4 identifying a second spatial signature associated with the identified other target(s); and
 - 5 modifying one or more transmission characteristics of the communication signal based, at
 - 6 least in part, on the identified first and second spatial signatures to generate a multi-lobe
 - 7 beampattern directed to each of the intended target(s) and the identified other target(s).
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 - 9 8. A method according to claim 1, further comprising:
 - 1 identifying a spatial signature for undesired users; and
 - 2 modify the multi-lobe beampattern to facilitate nulling of at least a subset of the
 - 3 undesired user(s) based, at least in part, on the identified spatial signature for the undesired users.
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 - 5 9. A transceiver comprising:
 - 1 wireless communication resources, to selectively transmit a wireless communication
 - 2 signal via an antenna array; and
 - 3 a communications agent, coupled with the wireless communication resources, to identify
 - 4 one or more target(s) for which the communication signal is intended as well as one or more
 - 5 other target(s) which may also benefit from receipt of the communication signal, and to develop
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7 a multi-lobe beampattern to transmit the communication signal to the intended target(s) and the
8 identified one or more other target(s).

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1 10. A transceiver according to claim 9, wherein the communications agent analyzes a
2 received datagram for transmission in the communication signal for target information.

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1 11. A transceiver according to claim 10, wherein the target information includes at least
2 information denoting the intended target(s) and information denoting other target(s) which may
3 benefit from receipt of the communication signal.

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1 12. A transceiver according to claim 10, wherein the target information comprises one or
2 more of an electronic serial number (ESN), a media access control (MAC) address, an internet
3 protocol (IP) address, a telephone number, and/or an application identifier.

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1 13. A transceiver according to claim 10, wherein the communications agent identifies a first
2 spatial signature associated with the one or more intended target(s) and a second spatial signature
3 associated with the identified one or more other target(s).

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1 14. A transceiver according to claim 13, the communications agent comprising:
2 a beamforming engine, to modify one or more transmission characteristics of the
3 communication signal based, at least in part, on the identified first and second spatial signatures.

1 15. A transceiver according to claim 14, wherein beamforming engine modifies one or more
2 of a amplitude weight value and/or a phase weight value associated with each of the one or more
3 antennae in the antenna array to generate the developed beampattern.

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1 16. A transceiver according to claim 15, wherein the communications agent identifies a
2 spatial signature associated with one or more undesired users of the communication signal,
3 wherein beamforming engine modifies one or more attributes of the multi-lobe beampattern to
4 null at least a subset of the undersired users.

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1 17. A transceiver according to claim 9, further comprising:
2 a memory system having stored therein content; and
3 control logic, coupled with the memory system, to access and execute at least a subset of
the content to implement the communications agent.

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1 18. A storage medium comprising content which, when executed by an accessing computing
device, causes the computing device to implement a communications agent to identify one or
3 more target(s) of a communication signal as well as one or more other target(s) which may also
4 benefit from receipt of the communication signal, and to develop a multi-lobe beampattern to
5 transmit the communication signal to the intended target(s) and the identified one or more other
6 target(s).

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1 19. A storage medium according to claim 18, wherein the communications agent analyzes a
2 received datagram for transmission in the communication signal for target information.

1 20. A storage medium according to claim 19, wherein the target information includes at least
2 information denoting the intended target(s) and information denoting other target(s) which may
3 benefit from receipt of the communication signal.

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1 21. A storage medium according to claim 19, wherein the target information comprises one
2 or more of an electronic serial number (ESN), a media access control (MAC) address, an internet
3 protocol (IP) address, a telephone number, and/or an application identifier.

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1 22. A storage medium according to claim 19, wherein the communications agent identifies a
2 first spatial signature associated with the one or more intended target(s) and a second spatial
3 signature associated with the identified one or more other target(s).

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1 23. A storage medium according to claim 22, wherein the communications agent selectively
2 modifies one or more transmission characteristics of the communication signal based, at least in
3 part, on the identified first and second spatial signatures.

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1 24. A storage medium according to claim 23, wherein the communications agent modifies
2 one or more of a amplitude weight value and/or a phase weight value associated with each of the
3 one or more antennae in the antenna array to generate the developed beampattern.